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10/578,124

12/05/2006

Emil Enz

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EXAMINER

ROY, SIKHA

ART UNIT

PAPER NUMBER

2879

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |                                   |  |
|------------------------------|--------------------------------------|-----------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/578,124 | <b>Applicant(s)</b><br>ENZ ET AL. |  |
|                              | <b>Examiner</b><br>Sikha Roy         | <b>Art Unit</b><br>2879           |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/1/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

The disclosure is objected to because of the following informalities:

The specification on page 1 line23, page 2 line 17 cites 'material **deep-drawn**'. It is not clear what the applicant means by 'deep-drawn'.

Page 1, line 24, 'cohesive electrode 1' should be replaced by --'cohesive electrode 2' --.

Furthermore, it is not clear what the applicant means by 'cohesive electrode'.

Appropriate clarification and correction are required.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Objections*

Claims 1, 3, 7 and 10 are objected to because of the following informalities:

Claim 1, in lines 2,3 recites the limitation 'the large surfaces'. There is insufficient antecedent basis for this limitation in the claim since there is no previous recitation of large surface in the claim.

In claim 3 the limitation of 'the electrode lying on the front' is not clear which side applicant is referring as 'front'. Proper clarification is required.

Claim 7 in line 3 recites the limitation 'the large surfaces'. There is insufficient antecedent basis for this limitation in the claim since there is no previous recitation of large surface in the claim.

In claims 1 and 7 the terms 'luminescent dielectric' and 'light layer' have been used interchangeably, consistent use of any one term is requested.

In claim 10 regarding the limitation reciting 'rear of the electroluminescence device' it is not clear which side of the EL device the applicant is referring as rear side.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 and 8, 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 'the common electrode' in line 5 lacks antecedent basis and hence renders the claim indefinite. For continuing examination it is considered to be the 'first flat electrode' with two luminescent layers on each side.

Claims 2-6 are also deemed indefinite because of their dependency status from claim 1.

In claim 5 line 4 it is not clear what the applicant means by 'two sections 28,29' and hence renders the claim indefinite. For continuing examination the curved portions of the bottom plane of the EL display as shown in Fig. 5 has been considered.

In claim 8 the limitation of 'the light layer is designed as a cohesive layer' is not clear and hence fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites the limitation "the free surface" in line 5. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 4,741,976 to Eguchi et al.

Regarding claim 1 Eguchi discloses (Fig. 1 col. 3 lines 24-56, col. 22 lines 40-68) an EL system comprising an EL device having a first electrode 3, two luminescent dielectric layers 4 and 5 are allocated on each surface of the electrode 3 such that at least one luminescent layer is transparent and a second electrode 2 on the surface of the luminescent layer 5 facing away from the electrode 3.

Regarding claim 3 Eguchi discloses the electrode 2 lying on the luminescent layer 5 is made of transparent material ITO.

Regarding claim 4 Eguchi discloses (col. 3 lines 53-56) the luminescent layers 4,5 made of material which can emit light at different wavelengths.

Regarding claim 6 Eguchi discloses (col. 4 lines 23-30) the EL device comprises a device for generation of electrical field by application of voltages across the electrodes so as to control luminescent layers emitting light.

Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5917280 to Burrows et al.

Regarding claim 1 Burrows discloses (Fig. 2 col. 4 lines 45 – 65) an EL system comprising an EL device having a first electrode 63, two luminescent dielectric layers 62,64 (two layers ETL/EL and HTL combined are considered as luminescent layer) are allocated on each surface of the electrode 63 such that at least one luminescent layer is transparent and a second electrode 61 on the surface of the luminescent layer 62 facing away from the electrode 63.

Regarding claim 2 Burrows discloses more than two (62,64, 68) transparent light layers are lying above each other and between every two light layers 62 and 64 or 64 and 68 a transparent electrode and each of the free large surfaces of the outside light layers are fitted with an electrode.

Regarding claim 3 Burrows discloses in Fig. 2 the electrode 61 lying on the front of the EL device is made of transparent material ITO.

Regarding claim 4 Burrows discloses the luminescent layers 62,64 made of material which can emit light at different wavelengths (blue and green).

Regarding claim 6 Burrows discloses (Fig. 2 ) the EL device comprises a device for generation of electrical field by application of voltages  $V_B$ ,  $V_G$ ,  $V_R$  across the electrodes so as to control luminescent layers emitting light.

Claims 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,837,390 to Kishii et al.

Regarding claim 7 Kishii discloses (Fig. 3 col. 11 lines 7-19) an EL system comprising an EL device with at least one layer of luminescent dielectric 3 having electrode 1,5 allocated to each of the large surfaces of the light layer , the electrodes being designed as set of parallel strips of electrically conductive material that the directions of these sets of strips are perpendicular to each other and a control device is provided so that the electrode strips are connected individually to an energy source.

Regarding claim 8 Kishii discloses the light emitting layer 3 is a cohesive layer, emitting light when voltage is applied between two top and bottom electrodes perpendicular to each other.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,741,976 to Eguchi et al. as applied to claim 1 above, and further in view of USPN 6,465,951 to Krafcik et al.

Regarding claim 5 Eguchi is silent about the EL device electroluminescence device has at least one point with a three-dimensional deformation, that this deformation has a radius which is less than 1 mm, and that at this deformed point are connected at least two sections 28, 29 of the EL device, between which extends an angle which can amount to 90°.

Krafcik in same field of endeavor discloses (Figs. 6,7,15 col. 9 lines 1-17, col. 10 lines 25-63) EL lamps formed on flexible substrate so that has one point has three-dimensional deformation with small radius of deformation (multi-lamp flexible module may be deformed or flexed to the extent that regions having small radius of curvature exist) , and at this deformed point are connected two points making an angle. Krafcik teaches this configuration provides a lamp with any desired three-dimensional shape maintaining operational integrity.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the EL device of Eguchi formed on flexible substrate so that has one point has three-dimensional deformation with small radius of deformation and at this deformed point are connected two points making an angle amounting to 90° as suggested by Krafcik for providing an EL lamp with any desired three-dimensional



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shape maintaining operational integrity. Eguchi as modified by Krafcik discloses the invention except the radius of deformation less than 1mm and two points connected to the deformation point making an angle amounting to 90°. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980). Thus, it would have been obvious to one of ordinary skills in the art at the time the invention was made to specify the radius of deformation less than 1mm and two points connected to the deformation point making an angle amounting to 90°, since discovering an optimum value of a result variable is considered within the skills of the art.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,932,895 to Shen et al.

Regarding claim 7 Shen discloses (Fig. 2 col. 3 lines11- 67) an EL system comprising EL device with at least one layer of luminescent dielectric 207, an electrode 206,209 allocated to each of the large surface of the light layer, the electrodes made of conductive material, one 209 being perpendicular to the other 206 and control device provided so that electrode strips can be connected individually to energy source. Shen does not explicitly teach sets of parallel strips of electrodes for the electrodes perpendicular to each other. It is well known in the art (as evidenced by Kishii et al.) set of parallel strips of electrode are used on each side of the luminescent layer for providing a large area of EL display in matrix form. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to include set of parallel

strips of electrically conductive material for the electrodes 206, 209 of Shen for providing a large display.

Regarding claim 8 Shen discloses the light layer is a cohesive layer.

Regarding claim 9 Shen discloses (Fig. 2 claim 5) the EL device has several transparent light layers of luminescent dielectric 204,207,211 lying above each other such that they emit light of different wavelengths and between every two such light layers is arranged a strip electrode and that the surfaces of the outside luminescent layers 203,211 each has a strip electrode.

Regarding claim 10 Shen discloses (col. 8 line 51) a reflective layer (reflective cap) 213 is allocated to the rear of the EL device and the reflected surface of this layer faces luminescent layers of the EL device.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikha Roy whose telephone number is (571) 272-2463. The examiner can normally be reached on Monday-Friday 8:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sikha Roy/

Primary Examiner, Art Unit 2879